DCCUMENT RESUME

ED 036 641 08 VT 010 317

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TITLE RESEARCH VISIBILITY: VCCATIONAL EDUCATION CURRICULUM.
INSTITUTICN AMERICAN VCCATICNAL ASSOCIATION, WASHINGTON, D.C.
SPCNS AGENCY OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C. BUREAU OF RESEARCH.
BUREAU NO BR-7-0633
PUE DATE JAN 70
GRANT OEG-2-7-070633-3021
NOTE 16P.
JOURNAL CIT AMERICAN VCCATICNAL JOURNAL; V45 N1 PP45-60 JAN 1970

EDRS PRICE EDRS PRICE MF-$0.25 HC-$0.90
DESCRIPTORS *BIBLICGRAPHIES, *CURRICULUM, CURRICULUM DEVELOPMENT, CURRICULUM RESEARCH, EDUCATIONAL RESEARCH, *RESEARCH REVIEWS (PUBLICATIONS), *VOCATIONAL EDUCATION

ABSTRACT

SIXTEEN RESEARCH REVIEWS ARE ORGANIZED UNDER THESE TOPICS: (1) CURRICULUM DEVELCPMENT, TREATING A NATIONAL CONFERENCE REPORT, A GUIDE FOR THE DEVELOPMENT OF A CURRICULUM, OCCUPATIONAL ANALYSIS AS A BASIS FOR CURRICULUM DEVELOPMENT, AND A SHARED-TIME CCNCEPT FOR AREA PROGRAMS, (2) AGRICULTURAL EDUCATION, REVIEWING INNOVATIVE ASPECTS CF OFF-FARM PROGRAMS, DIRECTED WORK-EXPERIENCE PROGRAMS FOR SECONDARY STUDENTS, AND A PRODUCTION AGRICULTURE CURRICULUM GUIDE, (3) BUSINESS AND OFFICE EDUCATION, REPORTING A PLANNING STUDY ON CURRICULUM RENEWAL, (4) DISTRIBUTIVE EDUCATION, REPORTING A SURVEY TO DETERMINE APPROPRIATE OCCUPATIONAL PROGRAMS, THE DEVELCPMENT OF A RETAILING INSTRUCTIONAL SYSTEM, A COMPETENCY PATTERN APPRCACH TC CURRICULUM CCNSTRUCTICN, REGIONAL WORKSHOPS CN PROJECT DEVELOPMENT, AND A CURRICULUM IN FOOD HANDLING AND DISTRIBUTICN, (5) HEALTH CCCUPATIONS, INCLUDING A SCHOOL PROGRAM FOR PRACTICAL NURSES, AND THE PITTSBURGH DEMONSTRATION PROJECT, AND (6) HOME ECONCMICS EDUCATICN, FCRWARDING A PLAN FOR COMPREHENSIVE SECONDARY SCHOOL PROGRAMS WHICH INCLUDES AN ILLUSTRATED MODEL. "PLAIN TALK," A CCNTINUING COLUMN BY THE EDITOR, DISCUSSES THE ELITIST GENERAL EDUCATION PHILOSOPHY FOR THE EDUCATION OF STUDENTS IN JUNIOR AND COMMUNITY COLLEGES AS CPPCSED TO THE PRAGMATIC CAREER TRAINING PHILOSOPHY. A BIBLICGRAPHY LISTS THE STUDIES REPORTED IN THIS ISSUE AS WELL AS 56 ADDITICNAL STUDIES WHICH WERE NOT REVIEWED AND PROVIDES ORDERING INFCRMATION. (DM)

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RESEARCH VISIBILITY

SYNTHESIS / APPLICATION / DISSEMINATION

JANUARY 1970

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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VOCATIONAL EDUCATION CURRICULUM

page

TOPIC I: CURRICULUM DEVELOPMENT 47
- National Conference Report
- Broad Approaches
- Occupational Analysis
- Shared-time Concept for Vo-Ed Programs

TOPIC II: AGRICULTURAL EDUCATION 49
- Innovative Aspects of Emerging Off-Farm Programs
- Directed Work-Experience Programs at Secondary Level
- Production Agriculture

TOPIC III: BUSINESS AND OFFICE EDUCATION 50
- Developing a New Curriculum

TOPIC IV. DISTRIBUTIVE EDUCATION 50
- Appropriate Occupational Programs at Various Levels
- Development of a Retailing Instructional System
- Competency Pattern Approach to Curriculum Construction
- Project Development
- Food Handling and Distribution

TOPIC V: HEALTH OCCUPATIONS 54
- School Program for Practical Nurses
- Pittsburgh Demonstration Project

TOPIC VI: HOME ECONOMICS EDUCATION 55
- Guidelines for Comprehensive Secondary School Program

TOPICS VII and VIII: TECHNICAL AND T&I EDUCATION 56

PLAIN TALK 56

BIBLIOGRAPHY 57

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PREFACE

What shall be learned and how?

RESEARCH VISIBILITY sections in the February 1968 and March 1969 issues of the JOURNAL have consolidated numerous research and development reports concerning the vocational curriculum. Of the nine national conferences on vocational and technical education sponsored by the U.S. Office of Education, one was devoted to curriculum development (see *A Guide for the Development of Curriculum in Vocational and Technical Education,* reported in this section).

One of the few sound assumptions that has been traditionally apparent and remains consistent is that the task of developing the vocational curriculum will never be accomplished. Obviously, this fact is true of the general education curriculum; the many dynamics at work in the world of occupations and employment compound the problems in vocational education. Many developments are encouraging and, hopefully, there may be some breakthroughs to produce the innovational in content and methodology. Nonetheless, the question of *seriousness* of intent should be faced up to by the professional vocational educator.

The brunt of the question seems to raise the issue of the extent to which professional effort and resources, financial and otherwise, will be devoted to needed curriculum change and adaptation of the future. No doubt, the totality of development and the degree of attention to it are fully dependent upon the professional viewpoint of the relevant purpose of vocational curriculum in the first place.

At this point in time, the professional challenge seems to be coming through loud and clear. If vocationalists in the schools do not pick up the curriculum challenge, there is assurance that others will do so: (a) the nature and amount of current manpower legislation on the Congressional drawing boards; (b) the rampant student discontent with educational irrelevancy; (c) the investment market which reflects the interests of the private sector in education and training; and (d) the general hue and cry for "a delivery system" which will accommodate American opportunity and services for all citizens who wish to acquire an adequate and meaningful vocational education.

Kenneth B. Clark, a psychologist of the Metropolitan Applied Research Center, admonishes the *business and industrial community* of the challenge in the context of *job training*. It is interesting to note his statement, "Also, the training must be real. Real training is not just job-skill training." He comments:

> If business is serious about developing training programs that are not tokens or gestures, however, it must prove by the nature of its programs and by their initial formulation and presentation, that its intent is genuine; the nature of the training must be shown to be an integral part of the jobs which allegedly exist and will be offered. Otherwise, pre-job training is not likely to be considered seriously by slum youth, who are suspicious and hypersensitive and who expect that promises will be honored.
>
> I suspect that the significant breakdown in the efficiency of American public education came not primarily from flagrant racial bigotry and the deliberate desire to create casualties, but from good intentions, namely, the sloppy sentimentalistic good intentions of educators to reduce standards in the education of low income and minority group youngsters, to leave them in a state of amorphousness and, thereby—on the grounds that teachers should not demand of these children what they demand of suburban children—make it possible for noneducation to be alibied. (Kenneth B. Clark, "Job Training—Need for Seriousness." *Wall Street Journal,* Sept. 25, 1969.)

An appraisal of sophisticated curriculum research. Curriculum researchers and professionals especially interested in curriculum theory on a sophisticated level should not overlook the *Review of Educational Research* of June 1969, (Vol. 39, No. 3). This issue devotes its entirety to curriculum and treats the following: history of thought and practice, influencing forces, materials, evaluation, methodological issues, and state of the field. The volume in summary and the state of the art are characterized by a concluding paragraph of John I. Goodlad:

> In brief summary, during the past decade significant progress has been made in the precise definition of curricular objectives, in the analysis of ends/means relationships, and in the effective ordering of stimuli for learning. Substantial progress has been made in extending both the understanding of the evaluative process and the use of evaluative data in diagnosing the possible causes of discrepancies between curricular expectancies and curricular accomplishments.
>
> In the realm of explaining curricular realities, however, we appear to know little more in 1969 than we knew in 1960. Curricular theory with exploratory and predictive power is virtually non-existent. The most eloquent plea of Schwab for correcting this condition directs our attention to the existential character of the curriculum: what it is, how it gets to be the way it is, and how it affects the people who partake of it."* (John I. Goodlad, "Curriculum: State of the Field." *Review of Educational Research.* Washington: American Educational Research Association. June/Vol. 39, No. 3, p. 374).

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* Joseph J. Schwab, "The Practical: A Language for Curriculum." Unpublished address, Annual Conference of the AERA, February 1969.

National Conference Report

Papers Presented at the National Conference on Curriculum Development in Vocational and Technical Education. (Dallas, March 5-7, 1969). University of California, Los Angeles. March 1969.

Melvin L. Barlow, University of California at Los Angeles, spoke on the "Intent and Purposes of Part I of the Vocational Education Amendments of 1968." After outlining the history of curriculum development since 1917, Dr. Barlow summarized the 1967 recommendations of the Advisory Council on Vocational Education. A summary of the contents of Part I of the 1968 Act brought Dr. Barlow to a closing statement in which he emphasized the job confronting the conference.

Alberta D. Hill, Iowa State University, Ames, presented "Training of Personnel in Curriculum Development." In suggesting a framework for training curriculum personnel, Professor Hill identified "basic assumptions underlying vocational technical curriculum and regarding curriculum leaders," reviewed competencies which curriculum personnel need, and applied a few principles of learning to the training of curriculum personnel.

Byrl R. Shoemaker, Ohio State Department of Education, discussed "The Development of Standards for Curriculum Materials." In outlining guidelines for the evaluation of the vocational education curriculum, he suggested that a curriculum should: (a) be organized around the student's goal; (b) be psychologically sound; (c) be experience centered; (d) cover skills, technical knowledge, work habits and attitudes, supportive educational services and evaluative techniques to analyze student achievement; (e) provide for individualized instruction, and (f) be allocated a major section of the student's day.

Gerald B. Leighbody, State University of New York at Buffalo, in presenting "The Future of Vocational Curriculum Development," emphasized that quality and new directions characterize the task of the future for vocational education. Professor Leighbody stated that vocational education "will have to rethink its purposes and realize that it can achieve its time-honored goals only by making them relevant to today's world and the fast-approaching world of tomorrow." New means for reaching goals, using new resources, are needed.

W. James Popham, Center for the Study of Evaluation, University of California, Los Angeles, discussed "Evaluation of Curriculum Materials and Their Use." Among criteria for evaluation of curriculum materials, he included content, cosmetics (packaging), and charisma. Stating that these criteria are completely inadequate for proper evaluation of curriculum materials, Mr. Popham described a "defensible criterion" as follows:

"The most defensible criterion by which to judge the adequacy of curriculum materials is the degree to which those materials, if used as directed, can consistently bring about desired changes in the behavior of the intended learners." To do this, a scheme for evaluating curriculum materials was suggested: designate objectives; assess learners; use curriculum materials; assess learners.

Louise L. Tyler, University of California, Los Angeles, presented "Current Trends in Curriculum Theory and Development." Issues, questions and ways of proceeding were outlined for objectives, learning opportunities and evaluation of curriculum development. Openmindedness was suggested regarding curriculum theory so that innovation will be facilitated.

Conference results were discussed further in nine regional clinics held in March and April, 1969. These clinics resulted in the publication of a *Guide for the Development of Curriculum*, which is reviewed in the following report.

Guide for Development of Curriculum

A Guide for the Development of Curriculum in Vocational and Technical Education. Division of Vocational Education, University of California, Los Angeles. June 1969.

This guide was the result of the National Conference on Curriculum Development in Vocational and Technical Education and nine regional clinics which followed it. Prepared for use by administrators, curriculum specialists, supervisors, and teachers at the State and local levels, the guidelines represent broad approaches to curriculum development problems which can be modified by each agency.

Recommendations are made regarding: curriculum development, dissemination and coordination; standards for curriculum development; special sources of curriculum materials; evaluation of curriculum and curriculum materials; professional development of personnel in curriculum activities; and national implications.

A bibliography is included in the guide, and appendices to the guide include "Governmental Agencies With Potential Resources for Vocational and Technical Education" and "Suggested Steps in Curriculum Development. Modification and Improvement."

Occupational Analysis

Institute on Occupational Analysis as a Basis for Curriculum Development: Final Report. Milton E. Larson and Duane L. Blake. Colorado State University, Fort Collins. June 1969.

Participants from 47 states and Puerto Rico, representing all of the vocational services, attended this Institute on July 29-Aug. 2, 1968. Most participants were state supervisors of vocational education or teacher-educators. The purpose of the Institute was to help these persons aid teachers in "identifying, analyzing and converting to curriculum materials the skills and knowledges essential on payroll jobs."

Guest instructors presented topics and served as discussion leaders during four workshop sessions. The sessions developed the concepts of the zoned analysis approach, the use of the content analysis chart, building the course of study, and translating

analysis into instructional materials. Summaries of the major presentations are included in the Institute report.

Evaluation forms completed by participants on the final day of the Institute pointed to values obtained from the Institute, and a follow-up evaluation was conducted three months afterward. Detailed findings of these surveys are given in the final report. In general a feeling existed that the purposes of the Institute had been fulfilled and many new things had been learned that could not have been obtained from other sources. Future institutes were recommended, and suggestions for strengthening the program were made. Several participants reported taking immediate "steps to implement within their own state, area or district some of the concepts of analysis presented at the Institute."

Included in the appendices to the report are illustrations of materials developed by participants after termination of the Institute.

Shared-Time Concept for Area Vo-Ed Programs

Shared-Time Concept for Area Vocational Education Programs: Considerations for Curriculum Development. O. Donald Meaders and Abel Ekpo-ufot, Eds. Michigan State University, Department of Secondary Education and Curriculum, East Lansing, Mich. October 1968.

This is one in a series of four publications which are based on papers and addresses from workshops conducted by the Shared Time Concept Project—a project to survey existing shared-time programs in order to develop principles and disseminate information about such programs. The three other publications are *Community Factors, Practices and Procedures* and *Financing and Administering Area Programs.*

The four publications are "designed to present some views and practices relevant to the use of the shared-time concept as an arrangement for providing an educational program for students from two or more schools." It is hoped that they will stimulate thought and discussion of the shared-time concept by providing various views on considerations related to the concept.

A paper prepared by William Mellon, research assistant, and O. Donald Meaders, project leader of the Shared Time Concept Project, is entitled "The Shared-Time Concept: A Rationale for Equal Educational Opportunity." Two general patterns of organizational structure found in shared-time programs are explained: (a) the Area Vocational Education Center, which is a central facility designed to serve as a Department of Vocational Education for several participating high schools; and (b) a pattern of sharing of existing facilities wthin each school by cooperating schools. Problems, disadvantages and advantages to the establishment of these programs are offered for consideration.

An address which Chandos Reid gave at a 1966 Workshop on Shared-Time Area Vocational Education Programs at Michigan State University, is entitled "Considerations for Development of Curriculum for Shared-Time Concept Programs." Identifying shared-time program participants, establishing criteria for entrance into shared-time vocational education programs, relating general education to vocational education, developing student understanding of the world of work, planning a curriculum for change, relating programs in the schools, and helping students keep identification with the home school, are problems which Dr. Reid discusses.

In "The Three S's: Students, Subjects and Schools," an address to a 1967 Workshop, Dale Alam of Michigan State Unversity suggests means by which to guide the student into motivating experiences. The biggest problem which Dr. Alam envisions is "finding ways to help teachers see what is really important in terms of what society holds to be important."

Stan Whitman, after an address on "Guidelines for Vocational Guidance and Counseling," asserted that he saw the need for separate vocational counselors. Inservice programs for counselors is one means which he suggested for improving counseling service to vocational programs.

Extensive treatment is given the shared-time concept in a paper written by Urban T. Oen and Dr. Meaders. It is titled "Developing the General and Vocational Curricula." Basing their information heavily on shared-time concept literature, the authors give attention to the concept as applied to the small rural high school, advantages and disadvantages of the concept, and curriculum development considerations.

A summary of ideas presented in the various papers was written by Dr. Meaders. Factors which he enumerates as considerations in curriculum development for shared-time programs are:

1. Selection of students for the shared-time programs.
2. Educational experiences at both sites should be integral, not separate and unrelated.
3. All students should develop an understanding of the world of work.
4. Students should develop concepts of change and of becoming a part of change.
5. Extra-class activities may help students develop identification or "a sense of belonging."

In conclusion, while supporting the shared-time concept as a possible basis for a "truly comprehensive" high school curriculum, Dr. Meaders warns that "the concept may easily be perverted to become, in effect, support to a dual educational system."

ACT Announces Areas For Pending Research

Minority students in higher education, the two-year college, college student growth and development, and new services are the four major areas in developmental research which the American College Testing Program's Research and Development Division will concentrate on in the coming months.

In addition, three areas of research services—expanded program services to secondary schools and colleges, financing higher education and special research projects—will receive attention.

Specific projects to be worked on in each area are outlined in the October 1969 issue of *Activity,* newsletter of the American College Testing Program.

Innovative Aspects of Emerging Off-Farm Programs

A Study of the Innovative Aspects of Emerging Off-Farm Agriculture Programs at the Secondary Level and the Articulation of Such Programs With Technical College Curriculum in Agriculture. Joe P. Bail and William H. Hamilton. Cornell University, College of Agriculture, Agricultural Education Division, Ithaca, N.Y. February 1967.

With the field of agricultural education newly expanded by the provisions of Public Law 88-210 to include off-farm areas of agricultural training, it was deemed advisable to investigate existent courses in these fields for the purpose of extending their good points to new secondary curriculums. This project consisted of two phases: an assessment of innovative programs and of the factors which contributed to their success, and an articulation of these programs on the secondary and post-secondary levels.

It was the objective of the study to examine innovative features of programs in agricultural business, agricultural mechanization, ornamental horticulture, and conservation as they related to objectives, curriculum content, pupil selection, facilities, work experience, organization and administration, advisory boards and community acceptance.

Through visits and interviews at selected secondary schools in New York and Connecticut, common features of successful programs were found to be:

1. Depth and care in pre-planning involving professional and lay groups concerned in conduct of program.
2. Advice and counsel of State Education Department personnel.
3. A high degree of concern for practical application of skills learned in school in on-the-job situations. Work experience was held as highly desirable by the participants.
4. Extensive efforts to provide the new programs with adequate equipment and facilities.
5. Extensive use of community facilities and resource people in the conduct of these programs.
6. Efforts to continually inform the public through news media, exhibits and demonstrations.
7. Considerable attention to such items as insurance and liability, transportation and travel, scheduling, and other details so that these did not become major problems in the operation of the program.
8. In planning and operation of these programs, the use of an advisory group.
9. Laboratory costs assumed by the schools.
10. Provisions for teacher specialization.

These findings were disseminated to interested school systems throughout the Northeast.

Results of the second part of the study relate to the understanding and awareness which must be obtained by both high school and post-high school teachers and administrators regarding the other's programs. It is suggested that opportunities to meet and discuss programs of mutual concern must be provided through a formal structure which may be subdivided into major instructional areas. Through such a mechanism, overlap, duplication of offerings, building on one another's program, and improved use of tax money can be investigated. Responsibilities of each group (high school and technical college) must be clearly outlined by administration in order to obtain the best coordination of programs.

Appendices to the study include "Guidelines for Innovating High School Programs in Agriculture" and "Guidelines for Strengthening Articulation Between High School and Technical College Curriculums in Agriculture."

Directed Work-Experience Programs at Secondary Level

The Development and Improvement of Directed Work-Experience Programs in Expanded Vocational Education Offerings in Agriculture at the Secondary School Level. Harold R. Cushman, et al. Cornell University, College of Agriculture, Department of Education, Ithaca, N.Y. June 1968.

This project was directed particularly at the development, trial and evaluation of a new and different program of vocational education in off-farm agricultural occupations. A detailed manual of operational directives was developed by the investigators by synthesizing knowledge and experience gained from initial attempts at forming programs in this new field. The manual, *Tentative Guidelines and Procedures for Directed Work-Experience Programs in Expanded Education Offerings in Agriculture*, was used by teachers of vocational agriculture in 16 different schools.

The guidelines and procedures were used in work with students in their senior year of ornamental horticulture and agricultural mechanization programs, and consisted mainly of directed work-experience coordinated with school work by teachers.

During the period in which the guidelines and procedures were being used in the 16 schools, progress was evaluated by the project staff, and any problems were diagnosed and given attention. Evaluation was also provided by teachers, students and employers through questionnaires. Results of the questionnaires demonstrated decisive endorsement of the basic substance of the guidelines and procedures, thus giving base to a conclusion that this is an acceptable structural model for such new programs.

Results of the findings were used in revising the guidelines and procedures, and the revised directives have been published as *The Teacher-Coordinator's Manual for Directed Work-Experience Programs in Agriculture.*

Evaluation of the effectiveness of directed work-experience was accomplished through comparison of the performance of students in the trial programs with that of students in similar courses of study which did not use directed work-experience. Comparisons were made of employment experience during the senior year, curriculum-related job experi-

ence in the senior year, achievement test results, a test-measured work attitude, and proportions of students entering curriculum-related employment or advanced study upon graduation from high school. Differences in the two groups, except in the job-satisfaction/work attitude area, favored the directed work-experience program's effectiveness.

In regard to the effect of the *extent* of work experience upon criterion performance, it was discovered that negligible differences existed in the performance of high and low experience groups. These results were deemed to imply that self-determination by a student of the amount of work experience he will have is just as valuable, if not more so, as any imposed requirements might be. It was found that "encouragement, rather than enforcement of minimum requirements, sufficed to elicit a considerable level of perseverance in work-experience from students enrolled in programs affiliated with the study."

Production Agriculture

Basic Curriculum Guide for Production Agriculture in Texas. Texas Education Agency, Austin. May 1969.

This "Basic Curriculum" resulted from three meetings of a State Advisory Committee on Curriculum Development in Vocational Agriculture appointed by the Texas Education Agency in 1967. The committee, comprised of vocational agriculture teachers, teacher-trainers and Texas Education Agency personnel, met twice to draft a preliminary curriculum, which was distributed for use in Spring, 1968. Revisions of this draft curriculum resulted in the curriculum guide included in this report.

The curriculum is designed for a four-year program, but it may be adaptable to some three-year programs. While covering the areas of animal science, soil science, plant science, agricultural mechanics, agricultural management, supervised experience programs and records, and leadership, time is also allotted in the curriculum for "local adaptation"—additional depth or additional areas important to the community.

Topic Three: Business and Office Education Curriculum

See Bibliography for Information on availability of complete studies

Curriculum Renewal

A Planning Study To Determine the Feasibility of Developing a New Business and Office Education Curriculum. Final Report. Frank W. Lanham, The Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, Columbus. June 1968.

This planning study was developed by a Business Education Study Committee of the National Business Education Association. The purpose of this committee was to lead representation from the total profession in the development of a new curriculum for business and office education.

In testing the value of a proposed new curriculum, four criteria of feasibility were used: (a) the plan was supported by professional leadership; (b) the plan evolved from available interdisciplinary thinking; (c) the plan provided a structure with profession-wide support and a feasible operational structure, and (d) dissemination and determination of disseminators, advocates, and acceptors were an integral part of the overall plan.

Curriculum renewal in business and office education was deemed feasible by the study, and a plan was drawn for implementation. The process of renewal in the plan is based on a "New Guide and Business Education Learnings (NOBEL) analog system model," which is described in the report. The next task will consist of development of a set of performance goals representing business and office job tasks. The investigators recommended that this next stage include development of training programs for performance goal development by practitioners.

A reference section is included in this report. Also, appendices include papers prepared by Edward J. Morrison, Albert A. Canfield, Dean H. Wilson, F. Carpenter, Harry Huffman, Geary Rummler, and Frank Lanham.

Topic Four: Distributive Education Curriculum

See Bibliography for Information on availability of complete studies

Appropriate Occupational Programs at Various Levels

Survey To Determine Appropriate Occupational Programs in the Field of Distribution and Marketing at Various Levels of Education, Final Report. Volumes I and II. Charles E. Peck and F. L. Denman. University of Washington, Seattle. January 1969.

The first volume of this report, "Relative Importance and Preparation for Distributive Education Subject Areas," seeks to "supply educators with basic information needed to devise improved instructional programs for career training in distribution and marketing." This information consists of personal characteristics, knowledge and skills needed by employees in these jobs in order to perform effectively, amount of instruction needed to acquire this knowledge and skill, and most effective plans for teaching these things.

Questions which the study attempted to answer included:

1. What knowledge and skills are most important for performance of marketing and distribution jobs?
2. What personal characteristics are most important for continuing employment in marketing and distribution jobs?
3. How do these knowledges, skills and characteristics differ in importance in the preparation of supervisors as compared to non-supervisors?
4. Do employers and employees agree about the importance and preparation of these items?

5. How many classroom hours are needed for learning of these items?

6. What should be the distribution between on-the-job and classroom taught skills?

7. Which personal characteristics may be molded by the school?

8. Where is the best place for personal characteristics to be learned?

In order to answer these questions, two surveys were conducted: one of personal interviews with businessmen and the other of mail questionnaires to D. E. teacher-coordinators. Seven areas of greatest importance in marketing and distribution jobs were revealed by the surveys: "job or product knowledge, human relations, personal characteristics, communications, mathematics, salesmanship, and internal organization and planning." Four areas designated as those of least importance were "marketing (excluding salesmanship), machines of business, economics, and bookkeeping and accounting."

As a result of the study it was recommended that:

1. Specialized job, product or service instruction be provided by extens on programs.

2. Cooperative programs be continued in the curriculum.

3. Instruction in human relations be included in the curriculum.

4. Desirable personal characteristics be cultivated in students.

5. Background be provided in mechanical and receiving aspects of communications.

6. Instruction and drill be provided in thought-transference aspects of communications.

7. A background in mathematics be provided students.

8. Salesmanship instruction be provided.

9. Instruction include internal organizational relationships of firms and in company and departmental planning.

10. The *Dictionary of Occupational Titles*, rather than the *Standard Industrial Classification Manual*, be the basis for defining distributive education.

11. Evaluation of distributive education programs in each state be conducted through a survey of graduates and their employers.

The second volume, "Places to Teach, Time Requirements, and Teacher Preparation," presents results of a nationwide survey of teacher-coordinators regarding their views on places and length of time to teach certain subject areas and on their degree of preparation in them.

Conclusions drawn from the study were that adequate preparation in important subjects is possible in the average time of a distributive education program and that teacher coordinators feel adequately prepared in these subjects.

Recommendations based on these conclusions included:

1. Use of teachers from other disciplines for teaching certain subjects offered in the distributive education curriculum.

2. Placing of new emphasis on subjects best taught in the distributive education classroom.

3. Making of arrangements with employers involved in cooperative programs for development of "those personal characteristics best handled on the job."

Development of a Retailing Instructional System

Development of a Retailing Instructional System for Distributive Education. Kenneth A. Ertel. University of Idaho, Department of Education, Pocatello, Idaho; Washington State University, Department of Education, Pullman, Wash.; Idaho State Board for Vocational Education, and Washington State Coordinating Council for Occupational Education, Olympia, Wash. August 1968.

Noting that today's need in distributive businesses is for persons with capabilities with changing job patterns and requirements, this study undertook to devise instructional systems for assisting noncollege bound students in the exploration of requirements for entry into retailing jobs and with the acquisition of entry capabilities. Using results of other USOE-supported research studies, this project designed a system which would utilize the several senses through use of various educational media.

Through use of the various media for giving pupils access to information, increased teacher time is provided for individual instruction, and it is possible to adjust the program to individual learning rates. Schools which have insufficient curricula and personnel in distributive education should be able to increase offerings through use of this system.

As stated in this report, the primary purposes of this project were to:

1. Provide for more effective and efficient instruction in competencies essential for employment in the general merchandise retail field.

2. Allow for more individualized instruction.

3. Provide more flexibility in instructional programing.

4. Provide more youths with an opportunity for occupational education in distribution.

5. Provide an integrated multiple strategy approach to presentation of subject matter.

6. Provide continuous evaluation and feedback of results of student performance.

The three basic modes of presentation in the sub-systems of the system devised in this project were audio tapes, filmstrips and programed instruction. Nine sub-systems were developed within the system: Salesperson's Job, Qualities of a Salesperson, Customers' Buying Motives, Selling Process, Merchandise Information, Cash Register Operation, Stockkeeping, Retail Records, and Working With People. For each subsystem a linear-style programed instruction was produced. The means by which this instruction is performed is through booklets, teacher-pupil interaction, field trips, textual assignments, films, and sound-slide presentations. The teacher's role is "as a decisionmaker and a coordinator in the learning process."

Prototype components of such an instructional system were developed during the project, and testing of them was planned for the fall semester of 1968 by the Northwest Regional Education Laboratories.

Fellowship Program

Applications for the American College Testing Program's postdoctorate research fellowship program for Summer 1970 should be mailed to Nancy S. Cole, The American College Testing Program, Box 168, Iowa City, Iowa 52240, before Jan. 15, 1970.

Competency Pattern Approach to Curriculum Construction

A Competency Pattern Approach to Curriculum Construction in Distributive Teacher Education, Final Report, Volumes I-V. Lucy C. Crawford. Virginia Polytechnic Institute, Blacksburg, Va. December 31, 1967 and June 1969.

The primary purpose of this project was to "provide a foundation for developing a distributive teacher education curriculum." Volume I of this research report includes a philosophy of distributive education, the critical tasks of the high school distributive education teacher-coordinator, the professional competencies needed to perform the critical tasks, the technical competencies needed to develop identified competencies of selected distributive workers, and a cross-tabulation of competencies needed by selected distributive workers.

Volumes II, III and IV include the critical tasks, competencies needed to perform the tasks, and a cross-tabulation of competencies needed by workers in jobs in department stores, variety stores, food stores, service stations, wholesaling, hotels and motels, and restaurants.

These four volumes encompass what was called Phase I of the project. Phases II and III are reported in Volume V. Phase II consisted of the development of educational objectives for developing competencies needed by distributive education teacher-coordinators, and Phase III consisted of a National Dissemination and Interpretation Seminar in Distributive Teacher Education held in August 1968.

The objectives of the study were to determine:

1. The basic beliefs concerning distributive education.
2. The critical tasks in the job of the distributive education teacher-coordinator.
3. The professional competencies needed to perform these tasks.
4. The technical competencies needed by the teacher-coordinator to develop competencies needed by workers to enter and advance in a distributive occupation.

Data for the study were gathered through interviews with State supervisors of distributive education, teacher-educators, teacher-coordinators, workers in distributive jobs and their supervisors, and business leaders. A Distributive Advisory Committee comprised of nationally recognized authorities in personnel management assisted in the organization of interviewing materials.

In determination of technical teaching competencies needed by teacher-coordinators of distributive education, concepts and generalizations were first drawn from the literature by two members of a committee of consultants. Then, 400 interviews were conducted with workers in 76 jobs in 7 categories of distributive business to determine critical tasks of the workers. After competencies needed to perform these critical tasks were drawn from personal experiences of the investigators, these competencies were evaluated by seven distributive education teacher educators in terms of their importance for the high school DE teacher-coordinator.

Among results of Phase I of the study was the construction of a philosophy of distributive teacher education "which reflects the deliberative opinions of the leadership in distributive education throughout the nation." Also, 179 tasks regarded by respondents as being "critical" to distributive education teacher-coordinators were identified. Among these were 48 tasks in teaching, 25 in guidance, 39 in coordination, 29 in public relations, 33 in operation and administration, and 5 in total school functions.

Professional competencies were identified and classed under categories of teaching, guidance, coordination, public relations and operation, and administration. These competencies were evaluated as either knowledge, understanding, skill, or attitude competencies. Technical teaching competencies were identified; most of those competencies identified as being needed by distributive workers were also identified as being needed by teachers of distributive education.

Phase II's objectives, to construct and evaluate educational objectives to develop these professional and technical competencies needed by distributive education teacher-coordinators, were met by a committee of consultants who are experts in the field of distributive education teacher training. The resulting objectives were stated in terms broad enough to facilitate discussion of the objectives at the Phase III national seminar.

In Phase III a group of selected distributive teacher educators was brought together for the purpose of providing it "with an interpretation of the findings from the first and second phases of the study and to demonstrate, through individual and group participation, the process of curriculum development." An evaluation of the effect of the seminar performed six months afterward showed that many of the seminar participants were using the findings of the study in the development of curriculum materials and in the restructuring of existing courses.

Recommendations for further study include those establishing priorities in the total job of the distributive education teacher-coordinator and experimentation of ways and means of accomplishing educational objectives at various levels (teacher education, high school, post-secondary and adult).

Project Development

Regional Workshops on Project Development for Distributive Education Curricula. Harland E. Sampson. University of Wisconsin, Madison. December 1967.

Altogether, 52 participants attended two Distributive Education Project Development Workshops held in the summer of 1967 with the support of the U.S. Office of Education. The purpose of the workshops was to "expedite development and improvement in the scope and quality of project training in distributive education." Participants received training in professional distributive education and in technical business content.

Workshop activities were intended to "increase the effectiveness of selected distributive education personnel in designing projects, project plans and related participating experiences," through pursuit of the following conference objectives:

1. To prepare selected distributive education teachers and coordinators in the use and preparation of project education materials.
2. To identify and develop the structure of projects to be used by teachers in relation to career objec-

tives, units of study and individual needs.

3. To develop guidelines to implement the necessary relationships with the business community.

4. To examine patterns of evaluation and measurement during and following project training.

5. To gain appreciation of project purposes in terms of their application to realistic employment situations.

6. To identify resources available and their contributions to effective project training.

Workshop programs were divided into activities as presentations on distributive education, curriculum, and instructional procedures; presentations on business, marketing, and research; small group discussions and work sessions; workshop readings; individual preparation and planning, and reports, critiques and discussion of projects and papers. Each participant prepared a plan for disseminating workshop materials to D.E. teachers in his state.

Questionnaires completed by each participant upon termination of each workshop resulted in highest ratings for presentations dealing with projects, project development and implementing project programs. Lower ratings were given presentations dealing with business topics.

A follow-up of dissemination project efforts, conducted eight weeks after the last workshop, showed that 53 percent of all participants had presented information to teachers in their states through a major presentation of some sort. It was found that success of the dissemination effort depended upon participants' attitudes regarding the profession and regarding the project method, cooperation received by the participant from the D.E. state supervisor's office, and opportunities for sharing workshop material.

Recommendations made in this report for future workshops relate to the problems of dissemination of information regarding workshop activities, selection of participants, follow-up procedures, and announcement procedures for future workshops. In particular, it was recommended that model dissemination presentations should be developed during the workshops, and guidelines for dissemination should be provided the participants.

Group follow-up sessions for analyzing problems experienced in implementation of workshop materials were recommended, along with development of a national distribution manual for simplifying steps a teacher will use in developing projects. In addition, it was recommended that other audiences, such as business people, guidance personnel, administrators, and related subject teachers, be presented with the project development idea.

Food Handling & Distribution

Curriculum in Food Handling and Distribution: A Guide for Experimentation in High School and Post-High School Vocational Training. Philip G. Stiles, et al. University of Connecticut, Storrs, Conn. May 1967.

This study was conducted for the purpose of developing an experimental high school and post-high school curriculum guide in food handling and distribution. As a basis for construction of this guide the study first set out to "define the needs for vocational programs in food handling and distribution in reference to preemployment and inservice training, to define the level and type of training needed by students and the special preparation needed by teachers and administrators in their programs," and to examine existing food handling and distribution programs and courses.

Data in this report, gathered through interviews with more than 200 food industries and associated individuals, cover the topics of tasks performed and opinions on educational needs. In addition, food handling and distribution curricula were obtained from institutions in Connecticut, and 13 institutions were visited for direct observance of facilities and programs.

Findings indicate that opportunities for employment in food stores in Connecticut are many, and that opportunity for advancement is high. Eighty-eight percent of food store managers and owner-managers interviewed during the study had been employed part-time while in high school, with most of them having worked as clerks. Seventy-six percent of the managers and owner-managers started their food store careers as clerks. Interviews revealed that approximately 97 percent of food store employees were satisfied with their work. Sixty percent of those interviewed felt that there was advancement potential in their jobs.

A need was expressed by those interviewed for more food-related courses in vocational schools, with competencies in the areas of human relations, mathematics, merchandising, marketing, salesmanship, product knowledge, business management, and accounting and bookkeeping being cited as vital knowledge needs. Placement training and/or on-the-job training was called for, and the personality trait most called for was "ability to get along and work with others."

The secondary curriculum in food handling and distribution proposed in this report has "general education experiences" comprising approximately 75 percent of the program. Also, part-time employment is suggested as a required learning experience. Learning experiences in human relations, accomplished through class sessions of students who are employed on a part-time basis, a unit of work incorporated in a marketing course, or a special course of human relations should be provided. A broad knowledge of food products should be given the students, perhaps through instruction from agriculture and home economics teachers. Finally, the vital areas of mathematics, merchandising and marketing must be included.

The proposed post-secondary curriculum would be directed toward those who are interested in managerial and supervisory positions in food handling and distribution. A minimum of 15 semester hours of general courses is suggested, along with 6-12 hours of food marketing and merchandising, 3-9 hours of product knowledge, including quality control, 3-6 hours of human relations, with emphasis on supervision, and occupational experience either before or during enrollment.

It is also suggested that offerings be made for adults who are currently employed as store personnel. These offerings would be especially valuable in the management areas, thus helping persons to advance in the field.

Suggestions are made in this report for implementing a pilot program in occupational education in a

particular institution or school district. The recommended factors to be included in such a program include:

1. Making a survey of local employment opportunities and/or training opportunities.
2. Organizing and meeting with an advisory committee which includes representatives from employers and employees.
3. Developing criteria which are to be used in selecting students.
4. Establishing courses of study and curriculum plans including work experience and practical laboratory experience.
5. Selecting teachers and/or coordinators.
6. Establishing policies and procedures for conducting and evaluating the program.
7. Involving faculty and parents to insure understanding of the proposed program.
8. Obtaining resources required.

This report makes suggestions regarding teacher requirements, school facilities, student selection, interrelationships of programs, and occupational experience. A suggested course outline is presented for a course in "Interpersonal Relations and Communications in Food Handling and Distribution." The objectives of this course would be to "assist students in gaining insight into and appraising their own and others' attitudes, interests, and motivations in terms of potential employment and advancement in food handling and distribution and to develop good working relationships with supervisors, co-workers, customers and others in community."

Listings of training aids, books, government and university bulletins, etc., are included in the report, along with course outlines for various food distribution and handling jobs.

Topic Five: Health Occupations Curriculum

See Bibliography for Information on availability of complete studies

School Program for Practical Nurses

School Program for Practical Nurses. Milwaukee Institute of Technology, Division of Instruction and Research, Curriculum Department, Milwaukee, Wis. September 1966.

This plan for curriculum revision in the practical nursing program was presented to the Wisconsin State Board of Nursing by the Milwaukee Institute of Technology Practical Nursing faculty. The main change which was proposed would make the controlling institution responsible for the total educational program from the time of recruitment and enrollment through graduation of the student.

The curriculum will consist of 1,243 clock hours of instruction divided into 1,356 periods of 55 minutes each. The program plan covers philosophy, objectives, organization and administration; the curriculum; faculty qualifications, responsibilities and functions; information regarding students, facilities and resources; records to be kept; evaluations to be made; and present and proposed cooperating agencies. Course summary sheets and outlines of instruction are included in appendices.

The program presented is a one-year program divided into two semesters and a nine-week practicum. Each semester is divided into three six-week periods. During the first six weeks of the first semester the student will be instructed in basic nursing for approximately three weeks and then will be introduced to working with patients in medical and surgical areas of participating institutions.

The second six weeks will consist of three days per week in the classroom and two days of increasingly complex clinical experience in the medical and surgical areas of the institution. The same procedure will fill the third six weeks, with the student learning to care for and administer routine medications to the acutely ill patient.

During the second semester the student will be given six weeks of experience each in obstetrics, pediatrics and mental nursing. The nine week practicum will include eight weeks of experience in the medical-surgical area on a team relationship with assistance from the instructor as needed. The last week of the course will be spent with mornings devoted to medical-surgical nursing and afternoons devoted to conferences with instructors and receiving assistance in making application for licensure.

Pittsburgh Project

Pittsburgh Technical Health Training Institute Demonstration Project, Volumes I and II: Final Report. Louis J. Kishkunas. Pittsburgh Board of Public Education, Pittsburgh, Pa. Dec. 15, 1967.

The focus of this research project was upon the development of a "model (short term) training program with all of its components so that future efforts in establishing training programs in the paramedical occupations in the Pittsburgh Public Schools might have a pattern to follow." The objectives were:

1. To test and demonstrate a flexible educational system.
2. To innovate teaching methods.
3. To reorient a flexible educational system.
4. To develop a physical plan for housing programs in a suitably equipped and staffed center.

These objectives were attempted through a six-phase research project. The first phase, that of conducting job analyses for the occupations of nurse aide, practical nurse and surgical technician, was the main base of the entire research project. These job analyses provided information on tasks performed, task procedures and task frequencies. Information for the job analyses was gathered through the use of job analysis checklists which were distributed to 1,174 employed public school graduates of nurse aide, practical nurse and surgical technician programs of the preceding two years.

The second phase consisted of determining training objectives from the job requirements. Tasks found to be frequently performed and considered to be important in the job analyses were analyzed and formed into a pool of tasks which were common to all three occupations. Sixty-one tasks found to be common were used as a basis for specifying educa-

tional objectives and constructing a core curriculum.

The third phase was an examination of personal characteristics which might affect student success in the training or on-the-job programs. Factors such as I.Q., reading level, age, highest grade completed, marital status, economic level, mobility, and length of time graduates remained in the program for which they received training were analyzed. The purpose of this phase was to tailor the programs to the needs of the typical student.

The fourth phase included five inservice seminars for orienting health institute instructors to the concept of a flexible educational system. The basic premise of the demonstration program was that of "activity-oriented, job-related materials and immediate reinforcement in learning." Lectures, illustration of materials by visual aids and opportunities to discuss and ask questions about the system were provided.

In the fifth phase a demonstration curriculum was developed and tested for the nurse aide program. Unit quizzes, examinations, worksheets, progress records, daily lesson plans, overall schedules, and a nurse aide handbook (*Basic Care of the Patient*) were developed. The experimental curriculum was shorter than the conventional course offered (six as compared with eight weeks), and involved methods such as roleplay, demonstration, group discussion, lecture, and supervised clinical work. The program was tested in the summer of 1967 with one class of students going through the experimental training course and another class taking the conventional course.

The sixth phase consisted of an evaluation of the nurse aide demonstration program. Evaluative instruments used included performance tests, three written examinations, student on-the-job evaluations, and supervisor on-the-job evaluations. In both performance tests and written examinations, students from the experimental classes rated higher than those from conventional classes. Student and supervisor on-the-job evaluations were about the same for both groups.

However, when teachers were asked to judge whether their students were ready to begin nurse aide work at the end of the six-week program, teachers from one hospital said that they believed the students were ready, and those from another hospital said that they did not feel the students were sufficiently trained in certain vital procedures. It was concluded that the program "was successful in reducing the training time and producing performances equal to or better than matched groups," and that this curriculum model is suitable as a pattern from which other paramedical training programs might be developed.

One problem which was encountered was that students in the reduced training program were not found to be as acceptable to employers as those who had completed an eight-week course. This could be a barrier to future innovative programs—"especially those requiring licensure and/or certification for employment."

Volume Two of the report consists of 24 valuable appendices providing examples of the technical behavior checklists, performance inventory forms, and typical job behavior reports used in the demonstration project. The core curriculum developed during the project, as well as lists of tasks common to the three occupations studied, are incorporated in the volume.

Topic Six: Home Economics Education Curriculum

See Bibliography for Information on availability of complete studies

Guidelines for Comprehensive Secondary School Program

Guidelines for Home Economics Education in Secondary Schools. State of New Jersey, Department of Education, Division of Vocational Education, Home Economics Unit, Trenton, N.J. August 1968.

This bulletin was developed as a "creative resource for local supervisors, teachers and administrators in the planning of home economics curricula that will serve students with varying needs, abilities, and interests." Although the primary emphasis of the guidelines is on preparation for personal, family and community living, preparation for the world of work is included in some of the learning experiences.

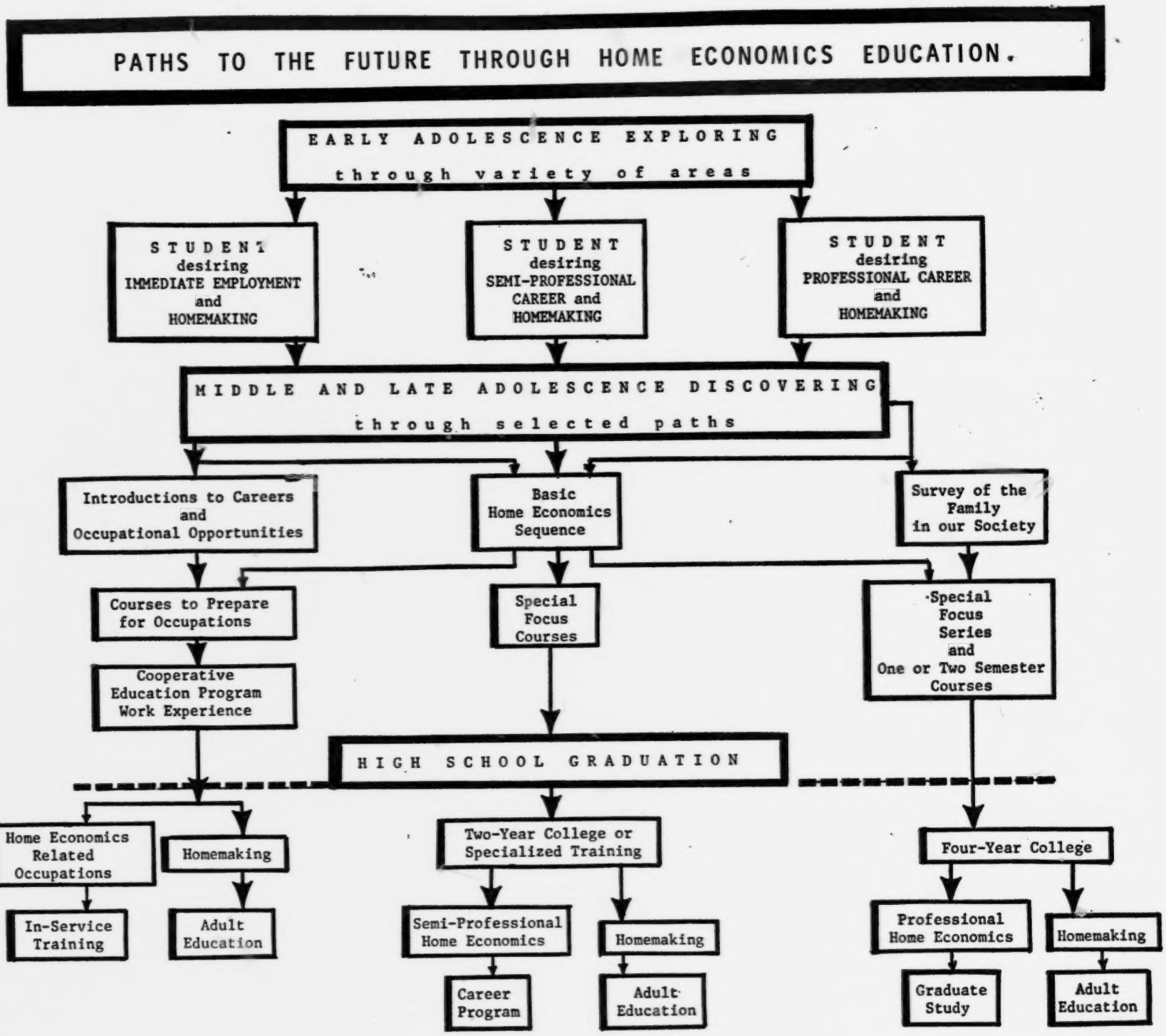
After presenting the goals of home economics education, the bulletin outlines the components of a comprehensive home economics program. Included among basic courses in home economics are: personal and family relationships; foods and nutrition; personnel and family economics; human and child development; textiles and clothing; housing, home furnishings, and equipment; home management and consumer education; and family health and safety.

"Special focus courses" include more specialized courses for persons who cannot take the entire basic sequence or who have an interest in one area of home economics. These courses are: family clothing and textiles; family meal management; housing, home furnishings, equipment, interior design and textiles; personal relationships; home management; preparation for marriage and the beginning family; the young child in the family; and consumer education.

The third component of a comprehensive home economics program is "Preparation for Home Economics Related Occupations," which includes cooperative work experiences. The diagram (see next page) from the bulletin illustrates a comprehensive home economics program.

A plan is presented for evaluating a home economics program, and guidelines for planning curriculum for home economics in grades 7-12 are outlined. Planning for needs of adults for continuing education courses in home economics is delineated,, with suggestions made for topics for adult classes. The second part of the bulletin is comprised of guides for developing teaching plans.

Next Issue . . . In February, *Research Visibility* will present reports on the topic of Accreditation and Evaluation.



Topic Seven: Technical Education Curriculum See bibliographical references

Topic Eight: Trade and Industrial Education Curriculum See bibliographical references

plain talk

George L. Brandon, Editor, Research Visibility

The vocational curriculum—elitist or pragmatic? An associate of the National Planning Association recently raised a simple but penetrating question with me. The question, by its nature, is one which I describe as the "hangover" type—a query which persists in bothering and annoying one's peace of mind.

In discussing the junior and community college of the future, its manifold role, its service to Americans, and the many expectancies we hold for its influence in vocational and technical education, my friend came up with the following: "What is (or should be) the role and function of the community college in the face of pressures and trends—will it be the provision of *elitist* general education or *pragmatic* career training for the 1970s?"

No doubt, the "hangover" characteristics which are disturbing are the words *elitist* and *pragmatic*. The question, omitting the community college implication, could well be raised with the purpose of any educational institution and with the instructional process wherever it may

be found. The question strikes at the core of the vocational program—the curriculum itself.

Generally, and omitting a fancy discourse of the pragmatic in education, vocational and practical arts educators have insisted upon programs and curriculums which provide students with *direct experiences*. Direct experiences as the basis for learning, an overworked simplification of the "learning by doing" concept, have probably cast most vocationalists as pragmatists. Other pragmatic influences and the use of many resources in the community at large have kept the program and the curriculum in the context of the real world and sometimes far removed from the schoolishness of academia.

By and large, the vocational educator can safely assume that his insistence on the experience-centered curriculum is not understood or appreciated by the generalist in education or the academician. The pragmatic curriculum and the learning theory which should accompany it, by comparison with other concepts, are complex to describe and rationalize. They have never been adequately verbalized by the vocational educator either to his educational associates or to students and their parents.

Probably the direct experience curriculum in education is expensive in its demand for facilities and equipment, although there are many alternatives to reducing the cost. But generally the prime objection to many vocational and technical education programs has been in their cost as compared with that of the traditional classroom. It is difficult to force oneself to believe that the cost factor of vocational and practical arts programs is chiefly responsible for the complacent attitude of educational administrators and their willingness to permit the program to be switched to another track outside the influence and control of the American school.

Interested in junior college research? Members and nonmembers of the American Educational Research Association (AERA) may have an opportunity to join a special interest group of the Association for research related to the junior community college. An initial organization meeting is planned for the AERA's annual convention in Minneapolis, March 2-6, 1970. Dr. Dale Gaddy of the ERIC Clearinghouse for Junior Colleges, 96 Powell Library, University of California, Los Angeles 90024, is consolidating memberships ($1 made payable to AERA).

Food for curriculum thought. The *Journal of Industrial Teacher Education* (Winter 1969 issue) is worth much more than the $5 annual subscription fee for its content of contemporary concepts of curriculum in industrial education. Matter of fact, the concepts and applications should be of interest to any teacher of vocational and technical education regardless of field of specialization. Included in the *Journal* are articles by (1) Yoho, "Systems Concepts with Implications for Industrial and Technical Education;" (2) Stadt, "Man and Technology in Secondary School Curriculum;" and (3) Pratzner, "Changing the Goals of Industrial Arts: An Occupational Development Curriculum."

Your subscription may be ordered from Prof. Howard McVicker, Department of Industrial Education, Building C, South Campus Courts, Purdue University, Lafayette, Ind.

Sources of publications about curriculums. An article in *Choice* magazine, "Nontrade Sources for Technical-Vocational Curriculums," lists sources of publications related to accounting; chemical technology; construction technology; electrical, mechanical and engineering technology; fire science; graphic arts and advertising; hotel technology; marketing; management; secretarial science; health services and others. If your library does not already have a copy, make inquiries of *Choice* magazine, 11 Riverview Center, Middletown, Conn. 06457.

bibliography

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"Shared-Time Concept for Area Vocational Education Programs: Considerations for Curriculum Development." O. Donald Meaders and Abel Ekpo-ufot, Eds. Michigan State University, Department of Secondary Education and Curriculum, East Lansing, Mich. October 1968. 41 pages. (ERIC # ED 029 144. HC: $2.40, MF: 25¢.)

Topic Two: Agricultural Education Curriculum

"A Study of the Innovative Aspects of Emerging Off-Farm Agriculture Programs at the Secondary Level and the Articulation of Such Programs With Technical College Curriculum in Agriculture." Joe P. Bail and William H. Hamilton. Cornell University, College of Agriculture, Agricultural Education Division, Department of Education, Ithaca, N.Y. February 1967. 92 pages. (ERIC # ED 012 792. HC: $3.76, MF: 50¢.)

"The Development and Improvement of Directed Work-Experience Programs in Expanded Vocational Education Offerings in Agriculture at the Secondary School Level." Harold R. Cushman, *et al.* Cornell University, College of Agriculture, Department of Education, Ithaca, N.Y. June 1968. 158 pages. (ERIC # ED 022 911. HC: $6.40, MF: 75¢.)

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Education, Vocational Agriculture Service, Texas A & M University, College Station, Texas 77843.)

Topic Three: Business and Office Education Curriculum

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Topic Four: Distributive Education Curriculum

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"Curriculum in Food Handling and Distribution: A Guide for Experimentation in High School and Post High School Vocational Training." Philip G. Stiles, *et al.* University of Connecticut, Storrs, Conn. May 1967. 167 pages. (ERIC # ED 021 982. HC: $6.76, MF: 75¢.)

Topic Five: Health Occupations Curriculum

"School Program for Practical Nurses." Milwaukee Institute of Technology, Division of Instruction and Research, Curriculum Department, Milwaukee, Wis. September 1966. 69 pages. (VT 000 830. For ordering data see future issue of RIE.)

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ADDITIONAL STUDIES

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DOCUMENT SOURCES

The material reported on in *Research Visibility* may be obtained from several sources. The source of each publication is indicated in each entry. The key to the abbreviations used there and instructions for obtaining the publications are given below:

CFSTI—Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Copies of reports with this symbol may be purchased for $3 each (paper) or 65 cents (microfiche). Send remittance with order directly to the Clearinghouse and specify the accession number (AD or PB plus a 6-digit number) given in the listing.

ERIC—Educational Resources Information Center, EDRS, c/o NCR Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. Copies are priced according to the number of pages. The MF price in the listing is for microfiche; the HC price is for paper copies. Send remittance with order directly to ERIC-EDRS and specify the accession number (ED plus a 6-digit number) given in the listing. *How to Use ERIC,* a recent brochure prepared by the Office of Education, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; the catalog number is FA 5.212: 12037-A; price: 30 cents.

GPO—Government Printing Office. Send orders directly to Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, with remittance for specified amount.

MA—Manpower Administration. Single copies free upon request to U.S. Department of Labor, Manpower Administration, Associate Manpower Administrator, Washington, D. C. 20210.

OTHER SOURCES—Where indicated the publication may be obtained directly from the publisher at the listed price.

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The project is cooperatively financed by the American Vocational Association and a Vocational Education Act of 1963 grant (OEG 2-7-070633, project 7-0633; "Synthesis and Application of Research Findings in Vocational Education").

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As *Research Visibility* is prepared under a U. S. Office of Education grant, it is not included in the American Vocational Journal copyright.